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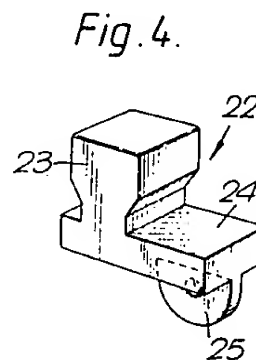
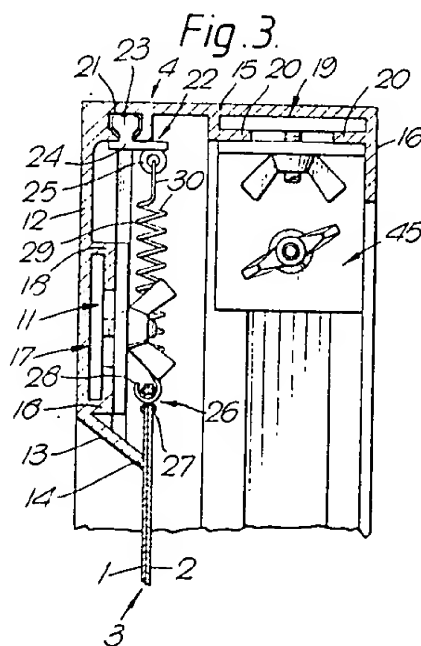
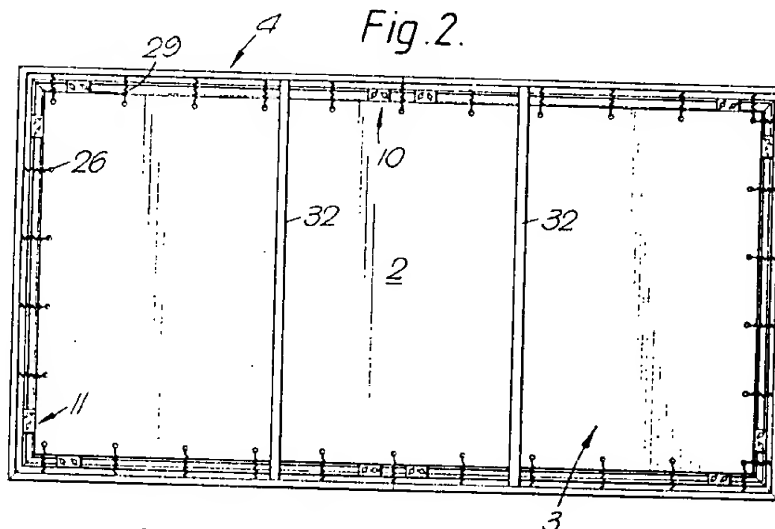
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(54) Displaying of large photographic prints or transparencies

(57) A large photographic print or transparency is displayed by providing eyelets 27 along the edges of a display sheet 3 incorporating the photographic print or transparency and mounting the display sheet under tension within a peripheral frame 4 using springs 29 connected between the eyelets and runners 22 received in a track 21 of the frame. A photographic print may be mounted on a tear-resistant flexible backing sheet 2 to form the display sheet. Transparent tape may be applied to the edges of a photographic transparency to form the display sheet.



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Fig. 1.

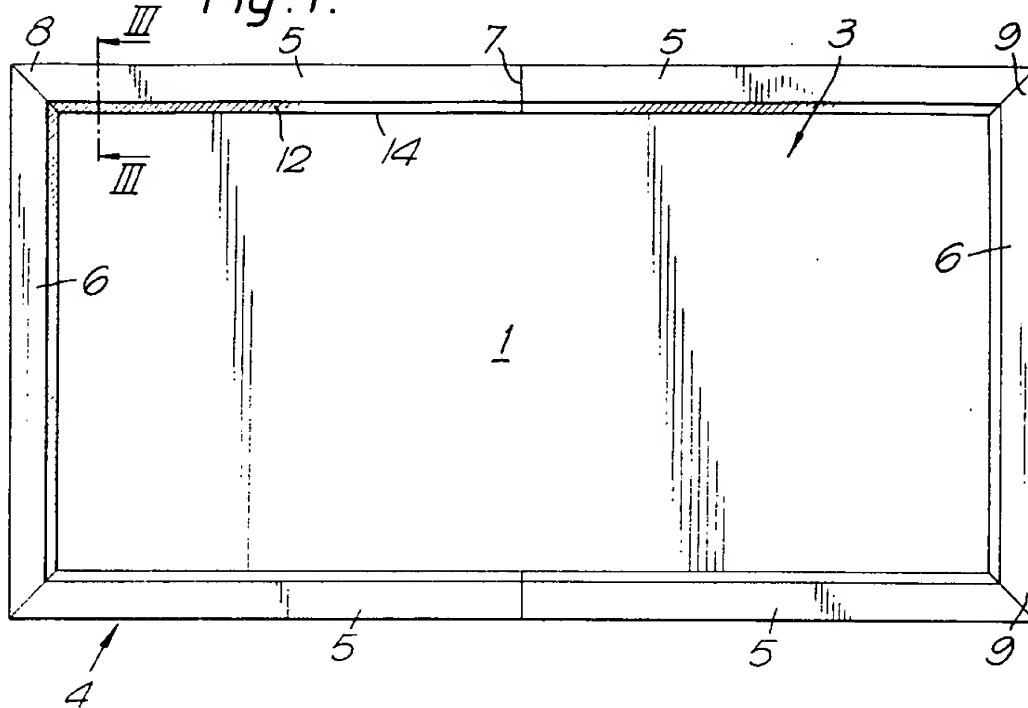


Fig. 2.

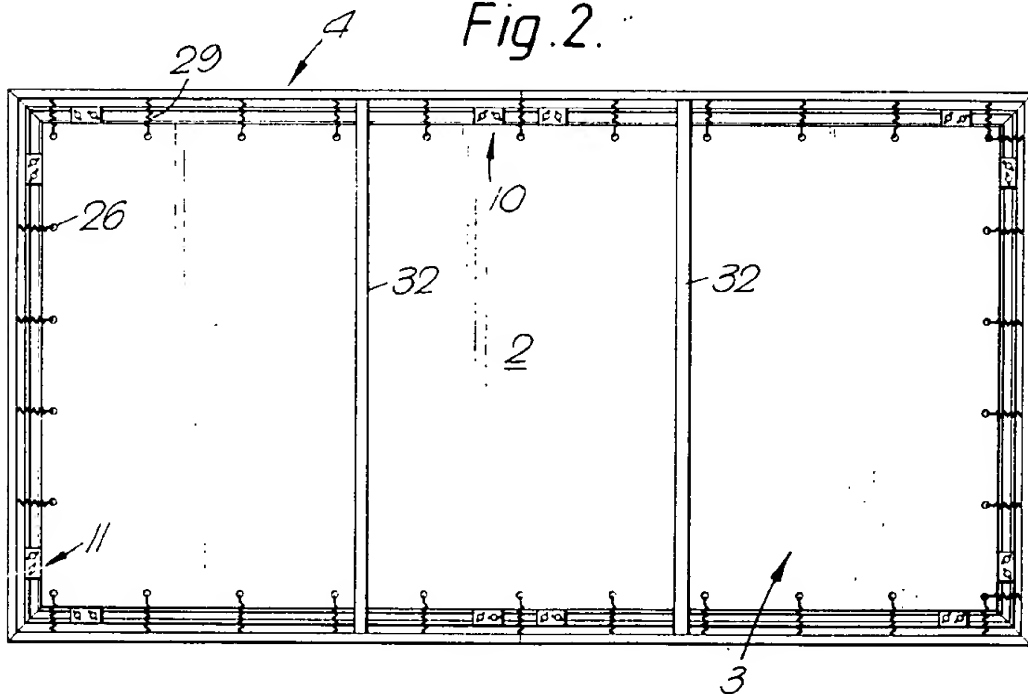


Fig. 3.

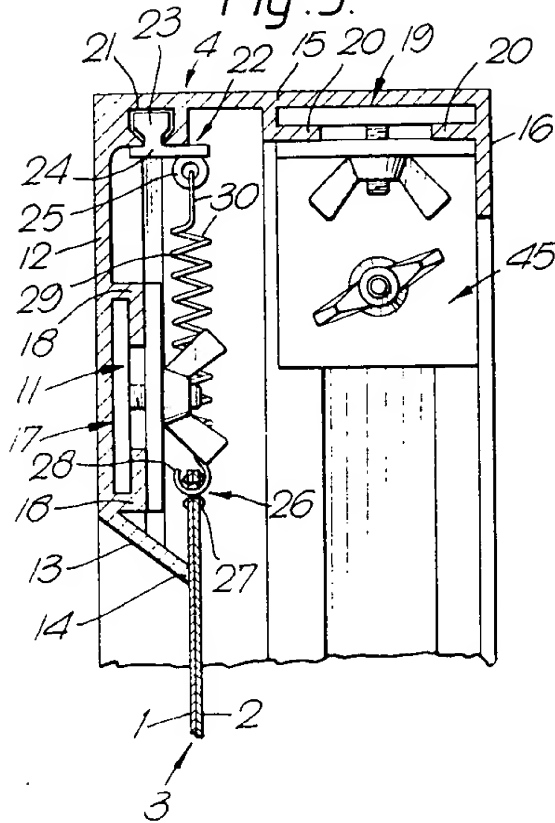


Fig. 4.

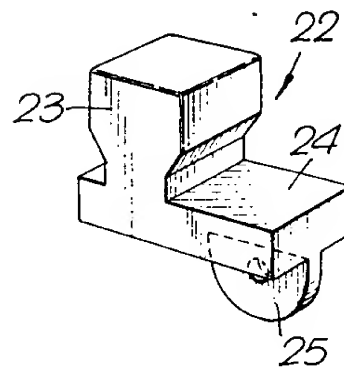
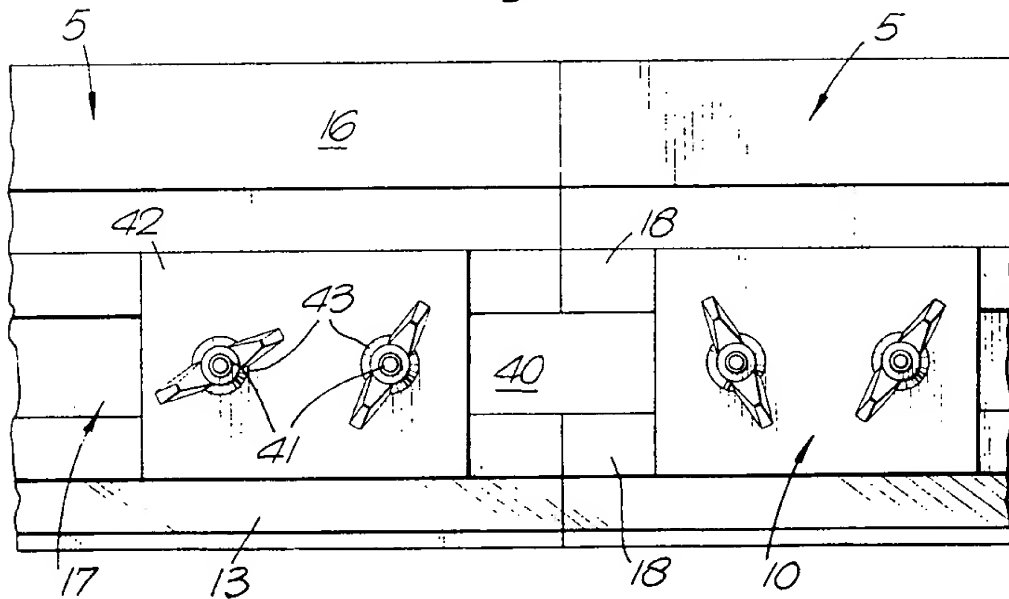


Fig. 5.



SPECIFICATION

Improvements in or relating to the displaying of large photographic prints or transparencies

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This invention relates to an improved method and apparatus for displaying large photographic prints or transparencies, such as those used for advertising purposes at exhibitions and the like.

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Photographic prints or transparencies are relatively fragile products. Photographic prints are conventionally mounted on a backing board, such as blockboard or good quality hardboard, resulting in a flat, relatively rigid print for display purposes.

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Photographic prints or transparencies of the kind in question frequently have very large dimensions and a print size of four by twelve feet (approximately 1.22 m by 3.66 m) is not unusual. The mounting of a photographic print on to its backing sheet is a specialist task involving the use of sophisticated machinery and occupies skilled operators for a considerable period. As a result, the mounting of the photographic print has to be done at the factory and the composite print and backing board have then to be transported to the desired site where the display incorporating the print is to be erected. It will be appreciated that transporting these large rigid composite products is cumbersome and expensive, especially if the print is to be moved from site to site periodically.

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The high quality blockboard and hardboard required for the mounting of these photographic prints is, of course, relatively expensive and space consuming to store. Moreover, the face of the mounted photographic print and the edges of the board are susceptible to damage during transport and use and, once the print has become no longer usable, its expensive backing board is scrapped.

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It is an object of the present invention to provide a more satisfactory and more convenient way of mounting large photographic prints or transparencies for display purposes.

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To this end, the invention provides, in one aspect thereof, a method of making a display employing a photographic print or transparency, including providing attachment means along the edges of a display sheet comprising a photographic print or transparency, and mounting the display sheet under tension within a peripheral frame using resilient suspension means connected between the attachment means and support means adjustably carried by the frame.

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According to a second aspect of the invention, there is provided a display apparatus suitable for displaying a display sheet comprising a photographic print or transparency, which apparatus comprises a peripheral frame, support means adjustably carried by the frame and resilient suspension means connectable between attachment means provided along the edges of the display sheet and the support means so as to suspend the display sheet under tension within the frame.

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Where the photograph to be mounted is a photographic print, the flexible reinforcing means generally comprises a tear-resistant backing sheet to which

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the photographic print is mounted. Suitably, the backing sheet of the composite display sheet is a layer of nylon fabric or balloon silk which is tear-resistant whilst being a light-weight material.

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Where the photograph to be mounted is a photographic transparency, the display sheet comprises a photographic transparency the edges of one surface of which are reinforced with transparent tape.

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In a preferred embodiment of the invention, the attachment means provided along the edges of the display sheet comprises a line of spaced-apart apertures formed around the edge of the display sheet, each aperture being provided with a reinforcing eyelet.

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In the preferred embodiment, the support means comprises runners captively received in, but movable longitudinally of, a support channel extending around the frame.

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Advantageously, the resilient suspension means comprises a respective helical tension spring connected between each of the attachment apertures and a respective runner.

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Desirably, the frame of the display apparatus is demountable and comprises a plurality of frame elements each of which is connected to an adjacent element by a cleat. Conveniently, each frame element is formed with a jointing channel adapted to align with the jointing channel of an adjacent element so as captively to receive a first cleat plate provided on each side of the joint with means for coupling the first plate to a second cleat plate disposed outside the jointing channel so as to clamp the first cleat plate in position in the jointing channel.

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In order that the invention may be readily understood, an embodiment thereof will now be described, by way of example, with reference to the accompanying drawings, in which:

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Figure 1 is a front view of an assembled display apparatus embodying the present invention;

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Figure 2 is a rear view of the display apparatus shown in *Figure 1*;

Figure 3 is a cross-section on the line III-III of *Figure 1*;

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Figure 4 is a perspective view, on an enlarged scale, of one of the support runners of the display apparatus.

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Figure 5 is a fragmentary view of a central part of one of the longer sides of the frame of the display apparatus, showing the connection between the two frame elements forming that side; and

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Figure 6 is a fragmentary view of a corner portion of the frame of the display apparatus, illustrating the joint formed between the two adjacent frame elements forming the corner.

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Referring now in detail to the drawings, *Figure 1* shows a display apparatus embodying the invention intended to display a very large photographic print or transparency, for example, a rectangular print or transparency having a width of the order of six feet (approximately 1.83m) and a length of the order of twelve feet (approximately 3.66m). These dimensions are, of course, given purely by way of example and are merely intended to give an idea of the very large size of the photographic prints or transparencies which can now be made and which may be

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conveniently displayed by means of a display apparatus in accordance with the invention.

As shown in Figures 1 to 3, a photographic print 1 is bonded to a backing sheet 2 (made, for example, of nylon fabric or balloon silk) to form a composite display sheet 3. Where a transparency is to be displayed, transparent tape is adhered to one surface of the transparency at the extremities thereof, that is at the edges of the surface, to strengthen the edges of the transparency to form a suitable display sheet. The display sheet 3 formed using either a transparency or a print is suspended within a demountable peripheral frame 4 assembled from longitudinal frame elements 5 and two transverse frame elements 6. In the arrangement shown, four frame elements 5 are provided. Of course the number of frame elements 5 provided may be any multiple of two, depending on the size of frame required. Similarly, the number of transverse frame elements 6 may differ depending on size requirements. Where, as shown in Figure 1, four longitudinal frame elements 5 are provided, each longitudinal frame element has a squared end 7 and a mitred end 8. Each of the transverse frame elements 6 is mitred at each end 9. Of course, where the number of transverse and longitudinal elements differs from that shown, only the ends of the frame elements 5 and 6 forming the corners of the frame will be mitred. As will be described in detail later with reference to Figures 5 and 6, each pair of adjacent ends of the frame elements are connected together by a straight cleat 10 or by a pair of corner cleats 11, 45 as appropriate.

The frame 4 is conveniently constructed from an aluminium extrusion having the profile illustrated in Figure 3. As can be seen from Figure 3, the frame presents a vertical front wall 12 formed at its inner edge with an inwardly and rearwardly extending skirt 13 whose free edge 14 defines the picture opening of the frame. At its outer edge the front wall 12 joins a rearwardly extending horizontal side wall 15 terminated by an inwardly extending rear wall 16 having a much smaller height than the front wall 12. The rear face of the front wall 12 is formed adjacent to the skirt 13 with a longitudinally extending jointing channel 17 defined by a pair of facing right-angled rails 18. A similar longitudinal jointing channel 19 is defined on the inner surface of the side wall 15 and at the rear of the side wall 15 by rails 20. At the front of the side wall 15, there is formed on the inner surface of the wall 15 a longitudinally extending support track 21 profiled to receive and retain a body portion 23 of a runner 22 having a rearwardly extending platform 24 carrying a ring 25.

As illustrated in Figure 2 and 3, a series of attachment apertures 26 is formed around the edge of the display sheet, each of the apertures being reinforced by an eyelet 27. Where the display sheet 3 comprises a photographic transparency, the apertures will, of course, be formed through in transparent type and reinforced by the eyelets. The display sheet 3 is mounted within the frame 4 by inserting one hooked end 28 of a respective helical tension spring 29 through each attachment aperture 26 and then inserting the other hooked end 30 of the spring

29 through the ring 25 of a respective runner 22. As will be apparent from Figure 3, the relative dimensions of the display sheet and the frame are selected so that the outer edge of the display sheet lies behind the front wall 12 of the frame above the inner edge 14 of the skirt 13 that defines the picture opening. The springs 29 tension the display sheet to retain it in a flat condition with the display sheet in contact with the inner edge 14 of the skirt 13.

Figure 2 shows vertical strengthening struts 32 which may be used to brace the longitudinal sides of the frame when necessary. Each strut 32 may be in the form of a length of extruded aluminium tube having a cross-section dimensioned so that the end of the tube forms a close fit in the jointing channel 19 of the side walls 15. Advantageously, the tubular strut 32 has a square cross-section. Of course, where a transparency is to be displayed, the vertical strengthening struts 32 cannot be used because the struts 32 would cast shadows on the transparency when the transparency is illuminated from the back. Where a transparency is sufficiently large to require added strengthening of the frame, the frame may be secured to a suitable wall.

Figure 5 shows a straight cleat for connecting together the two frame elements 5 constituting a longitudinal side of the frame. This cleat 10 comprises a first cleat member 40 in the form of a strip of, for example, aluminium adapted to be received in the jointing channel 17 of the front wall 12 of the frame so as to span the joint between the two frame elements. On each side of the joint, a pair of clamping bolts 41 extend captively through respective holes formed in the strip 40 and are passed through corresponding apertures in a second cleat plate 42 disposed outside the channel 17. By applying and tightening wing nuts 43 to the bolts 41, the rails 18 of the channel 17 are clamped between the two cleat plates 40 and 42.

As shown in Figure 6, the corner cleat 11 provided for connecting adjacent frame elements 5 and 6 at a corner of the frame is of essentially the same construction as the straight cleat 10, except that the first cleat plate 44 of the corner cleat has two arms extending at right angles to one another. Moreover, each corner joint is further strengthened by a secondary corner cleat 45 consisting of a first right-angled dihedral cleat plate 46 received in the mounting channel 19 of the top wall and a second right-angled dihedral cleat plate 47 coupled to the first cleat plate by screws 48 and wing nuts 49 so as to clamp the rails 20 of the channel 19 between the plates 46 and 47.

It will be appreciated that the above display apparatus with its flexible display sheet and demountable frame may be conveniently and safely transported to a site, simply erected and then, if necessary, disassembled for transport to another site. Moreover, the frame of the display apparatus is completely re-usable should the display sheet become damaged or be discarded for any reason, since a new display sheet of appropriate size can simply be substituted for the damaged or unwanted original display sheet. As flexible display sheets for use in the display apparatus of the present invention can be

manufactured more economically than the rigid display sheets employed previously, damaged or unwanted sheets can be replaced much more cheaply once a frame has been acquired.

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CLAIMS

1. A method of making a display employing a photographic print or transparency, including providing attachment means along the edges of a display sheet comprising a photographic print or transparency, and mounting the display sheet under tension within a peripheral frame using resilient suspension means connected between the attachment means and support means adjustably carried by the frame.

2. A method of making a display employing a photographic print according to Claim 1, comprising forming the display sheet by mounting the photographic print on a tear-resistant flexible backing sheet.

3. A method of making a display employing a photographic transparency according to Claim 1, comprising forming the display sheet by applying transparent tape to the edges of one surface of the photographic transparency.

4. Display apparatus suitable for displaying a display sheet comprising a photographic print or transparency, which apparatus comprises a peripheral frame, support means adjustably carried by the frame and resilient suspension means connectable between attachment means provided along the edges of the display sheet and the support means so as to suspend the display sheet under tension within the frame.

5. Display apparatus according to Claim 4, further including a display sheet comprising a photographic print or transparency.

6. Display apparatus according to Claim 5, wherein the display sheet comprises a photographic print mounted on a tear-resistant backing sheet.

7. Display apparatus according to Claim 6, wherein the backing sheet of the composite display sheet is a layer of nylon fabric or balloon silk.

8. Display apparatus according to Claim 5, wherein the display sheet comprises a photographic transparency the edges of one surface of which are reinforced with transparent tape.

9. Display apparatus according to any one Claims 4 to 8, wherein the attachment means provided along the edges of the display sheet comprises a line of spaced-apart apertures formed around the edge of the display sheet, each aperture being provided with a reinforcing eyelet.

10. Display apparatus according to Claim 9, wherein the support means comprises runners cap-actively received in, but movable longitudinally of, a support channel extending around the frame.

11. Display apparatus according to Claim 10, wherein the resilient suspension means comprises a respective helical tension spring connected between each of the attachment apertures and a respective runner.

12. Display apparatus according to any one of

Claims 4 to 11, wherein the frame of the display apparatus is demountable and comprises a plurality of frame elements each of which is connected to an adjacent element by a cleat.

13. Display apparatus according to Claim 12, wherein each frame element is formed with a jointing channel adapted to align with the jointing channel of an adjacent element so as captively to receive a first cleat plate provided on each side of the joint with means for coupling the first plate to a second cleat plate disposed outside the jointing channel so as to clamp the first cleat plate in position in the jointing channel.

14. Display apparatus substantially as hereinbefore described with reference to, and as illustrated in the accompanying drawings.

15. Any novel feature or combination of features described herein.

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